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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,053	07/31/2003	Vivek Kashyap	AUS920030078US1	3491
35525	7590	06/19/2007		
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER SCUDERI, PHILIP S	
			ART UNIT 2153	PAPER NUMBER
			MAIL DATE 06/19/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/631,053

Applicant(s)

KASHYAP ET AL.

Examiner

Philip S. Scuderi

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

#### I. 35 U.S.C. § 101

Applicant's arguments in regards to the §101 rejections have been considered and are persuasive. The §101 rejections have been withdrawn.

#### II. 35 U.S.C. §§ 102-103

Applicant's arguments in regards to the §§102-103 rejections have been considered and are persuasive. Thus, the corresponding rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made below.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

**SearchStorage (SearchStorage.com definition of InfiniBand, dated 05 June 2001), Pentakalos (An Introduction to the InfiniBand Architecture, Odysseas Pentakalos, dated 04 February 2002), and Haggerty (U.S. Patent No. 6,331,983).**

As to claims 1, 14, and 22, SearchStorage and Pentakalos describe the InfiniBand architecture. InfiniBand is an I/O architecture that can be used in a system area network to share data between multiple servers (see Pentakalos at fig. 2). InfiniBand is similar to a other networks such as the Internet in that it supports multicasting of packets to groups of nodes using switches and even utilizes the Internet protocol to route the packets (see SearchStorage at page 2).

InfiniBand differs from the claimed invention in that when performing multicast operations InfiniBand switches (see, e.g., Pentakalos at fig. 2) do not perform the following functions:

receiving, in a first node, a leave request from a second node for leaving a multicast group, wherein the multicast group has a first member at a third node connected to a first;

determining whether a single node remains in the multicast group; and

if a single node remains in the multicast group, routing, by the Subnet Administration, the first switch to discard all packets for the multicast group.

Nonetheless, these functions were well known in the art, as evidenced by Haggerty.

Haggerty teaches a method for performing similar multicasting operations on similar networks. In particular, Haggerty teaches a method for managing multicast groups comprising:

receiving, by a first node (first switch), a leave request (leave group announcement message) from a second node (second switch) for leaving a multicast group, wherein the multicast group has a first member at a third node (host) connected to a first switch (see Haggerty at fig. 5, 17, 18; col. 31, ll. 52 – col. 32, ll. 14);

determining whether a single node remains in the multicast group (see Haggerty at fig. 18; col. 31, ll. 66 – col. 32, ll. 14); and

if a single node remains in the multicast group, routing, by the Subnet Administration, the first switch to discard all packets for the multicast group (see Haggerty at fig. 18; col. 31, ll. 66 – col. 32, ll. 14).

Haggerty's method for managing multicast groups provides advantages such as ensuring that multicast traffic is transmitted onto switched networks without generating excessive traffic and enabling the efficient transmission of multicast traffic in a switched network (see Haggerty at col. 7, ll. 5-20). It would have been obvious to one of ordinary skill in the art to use Haggerty's method for managing multicast groups in an InfiniBand network (see, e.g., Pentakalos at fig. 2) for at least the same reasons (see Haggerty at col. 7, ll. 5-20).

As to claims 2, 4, 8, 11, 15, 18, and 23, these claims are rejected for the same reasons as claims 1, 14, and 22 and because InfiniBand identifies multicast groups using MLIDs (see Specification at pages 2-3).

As to claims 3, 5, 10, 12, 16 and 20, Haggerty further teaches that routing the first switch includes inserting an entry for the multicast group in a multicast routing data structure in the first switch, the entry indicating that packets are to be discarded (see Haggerty at fig. 18; col. 31, ll. 66 – col. 32, ll. 14).

As to claims 6, 13, 17, and 21, Haggerty further teaches, responsive to a join request from a receiving node, updating at least one multicast routing table for at least one switch in the system area network to route packets for the multicast group to the receiving node (see Haggerty at fig. 10).

As to claim 7, Haggerty further teaches:

receiving a leave request from a third node for leaving the multicast group (see Haggerty at fig. 5, 17, 18; col. 31, ll. 52 – col. 32, ll. 14);

determining whether a single node remains the in multicast group (see Haggerty at fig. 18; col. 31, ll. 66 – col. 32, ll. 14); and

if a single node remains in the multicast group, routing a switch closest to the single node to discard all packets for the multicast group (see Haggerty at fig. 18; col. 31, ll. 66 – col. 32, ll. 14).

As to claims 9, 19, Haggerty further teaches that the first member is a send-without-receive member (see Haggerty at fig. 5).

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

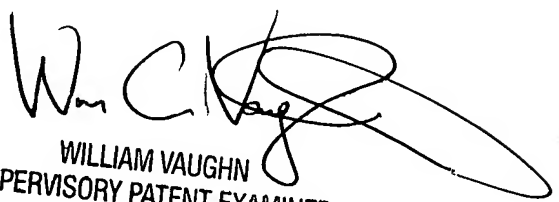
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip S. Scuderi whose telephone number is (571) 272-5865. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS

  
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